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# (12) UK Patent Application (19) GB (11) 2 289 999 (13) A

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(56) Documents Cited

GB 1581503 A EP 0505028 A US 4561064 A

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G4Q QCE, H4D DRPB DRPC

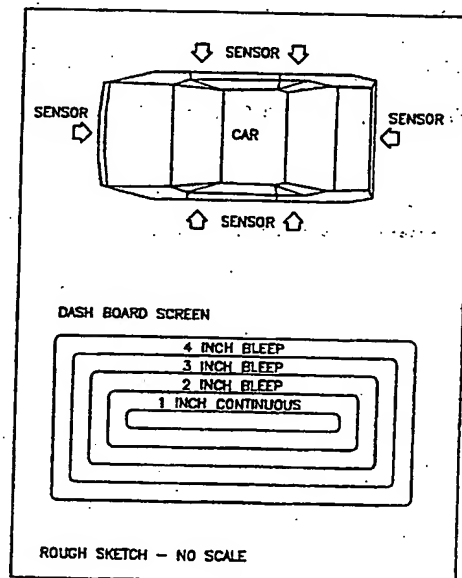
INT-CL<sup>6</sup> G01S, G01V, G08G, H03K

Online: EDOC, WPI

(54) Motor vehicle with parking device

(57) A motor vehicle has mounted thereon at least one proximity sensor and an attention-seeking device adapted to generate an attention-seeking signal when the vehicle is within a predetermined distance of an obstruction. The signal may be in the form of a visible and/or audible alarm generated by a device on the vehicle dashboard; different signals (eg intermittent/continuous) may indicate different degrees of proximity. The sensor may be an infra-red or ultrasonic sensor mounted on the bumper or by the lights, or in the form of a coil mounted around and on the vehicle which senses variations in the local electromagnetic field caused by an obstruction.

## Parking and Unparking Device

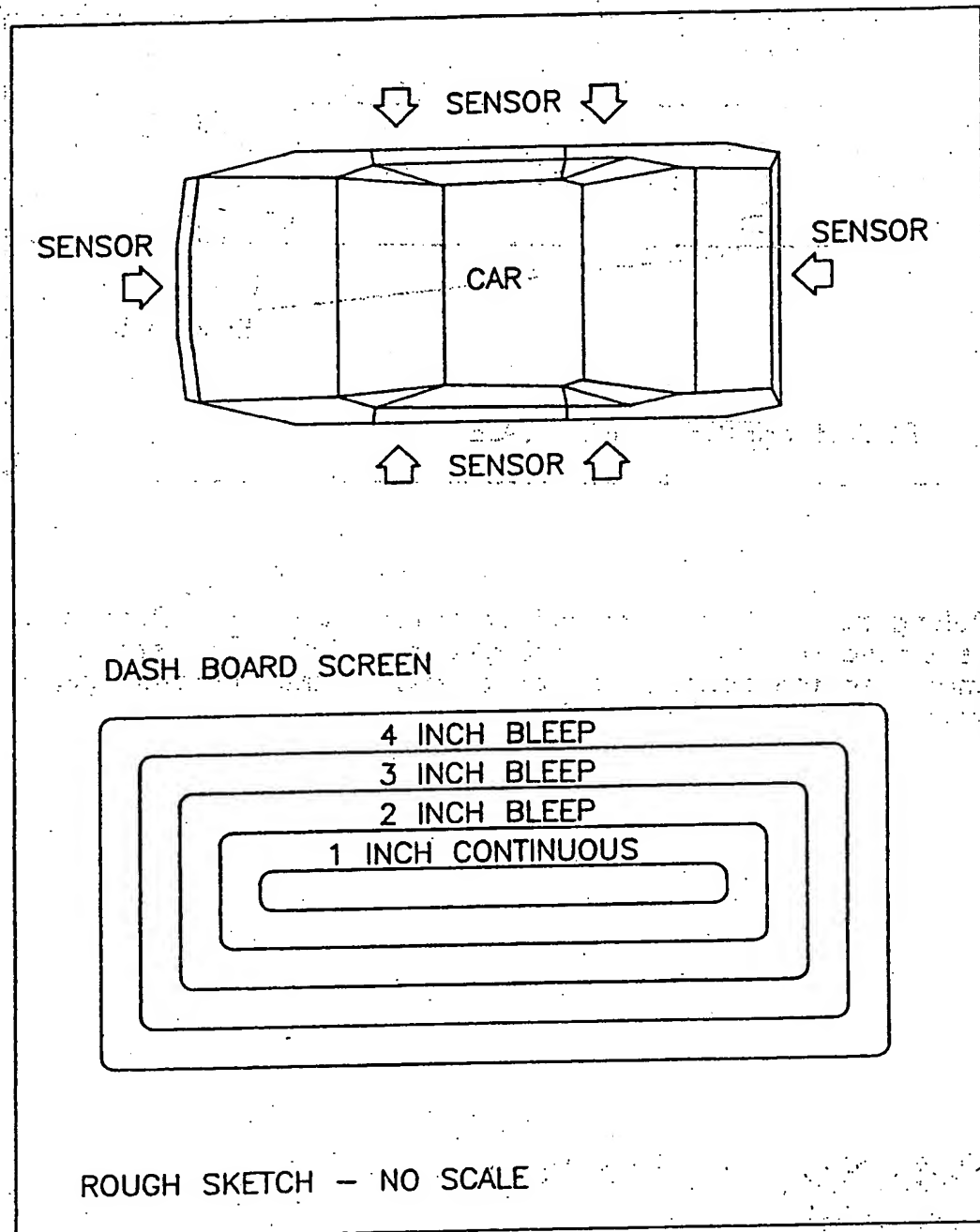


Parking and Unparking Device.  
Sensor device around car with screen on dashboard. When car is moving off or parking, sensor indicates by bleep on dashboard screen distance between other cars ie: 4 inches, 3 inches etc.

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# Parking and Unparking Device

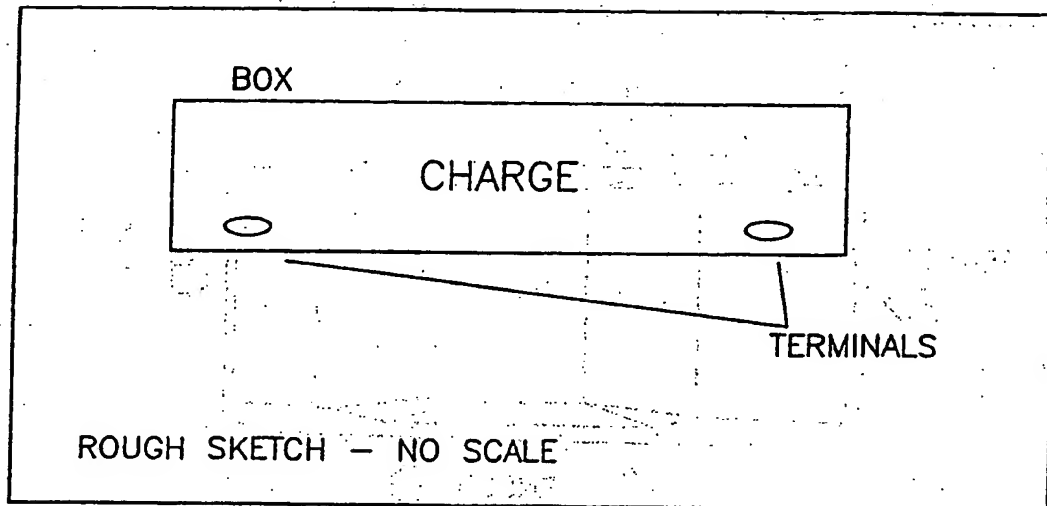


Parking and Unparking Device.

Sensor device around car with screen on dashboard. When car is moving off or parking, sensor indicates by bleep on dashboard screen distance between other cars ie: 4 inches, 3 inches etc.

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# Car Battery Charger



Oblong box or similar gadget containing a charge which can be placed on top of car battery and switched on sending charge to the battery. Can be carried in the car and used when necessary.

**MOTOR VEHICLE WITH PARKING DEVICE**

This invention relates to motor vehicles.

There is a problem when manoeuvring a vehicle in a confined space in that it is not always possible to judge accurately where the edge of the vehicle is in relation to any obstruction. This is particularly so when one is driving a vehicle which one is not accustomed to driving. The problem perhaps arises most commonly when parking a motor car in a space between two other cars, but may also occur in other situations, such as when manoeuvring a fork-lift truck in a warehouse.

It is an object of this invention to provide a means for alleviating this problem.

According to this invention, there is provided a motor vehicle having mounted thereon at least one proximity sensor and an attention-seeking device adapted to generate an attention-seeking signal when the vehicle approaches to within a predetermined distance of an obstruction.

The attention-seeking device may, and preferably does, comprise a display unit mounted for example on a dashboard of the vehicle which is illuminated to give an indication that an obstruction has been approached to within the predetermined distance.

Alternatively or in addition, the attention-seeking device may, and preferably does, comprise an audio signal generator for emitting a sound when an obstruction has been approached to within the predetermined distance.

Advantageously, such attention-seeking device is arranged to give at least two different signals, preferably at least two different visual signals and/or

at least two different audio signals, indicative of the approach of the vehicle to within two different predetermined distances of an obstruction. For example the device might emit a flashing light and/or an intermittent "bleep" on approach to a distance within say 15 to 30 cm of an obstruction and a continuous signal or signals on approach to within 2 to 3 cm. Or *vice versa*.

In some preferred embodiments of the invention, the attention-seeking device is arranged to give a numerical indication of the distance of an obstruction. This might take the form of a continuously variable digital read-out of that distance, but it would be sufficient for the purposes of this invention simply to illuminate (back-light) different panel areas marked with different distances.

It is preferable for a switch to be incorporated so that the sensor and attention-seeking device may be switched off when not required. For example this may be done manually, or automatically so that the sensor and attention-seeking device are activated whenever the vehicle is travelling at less than a predetermined speed and whenever reverse gear is selected.

The proximity sensor may be constructed in any manner known *per se*. As an example, a coil may be arranged around the vehicle, suitably at a mid-height trim-line or at the level of the vehicle skirt, for sensing variations in electromagnetic field attendant on the approach of a vehicle to an obstruction. As an alternative, one or more ultrasonic or infra-red range-finding devices may be mounted on the vehicle, for example recessed in a bumper or adjacent a lamp cluster.

**CLAIMS**

1. A motor vehicle having mounted thereon at least one proximity sensor and an attention-seeking device adapted to generate an attention-seeking signal when the vehicle approaches to within a predetermined distance of an obstruction.
2. A motor vehicle according to Claim 1, wherein the attention-seeking device comprises a display unit mounted on a dashboard of the vehicle which is illuminated to give an indication that an obstruction has been approached to within the predetermined distance.
3. A motor vehicle according to Claim 1 or 2, wherein the attention-seeking device comprises an audio signal generator for emitting a sound when an obstruction has been approached to within the predetermined distance.
4. A motor vehicle according to any preceding Claim, wherein such attention-seeking device is arranged to give at least two different signals, each indicative of the approach of the vehicle to within a different predetermined distance of an obstruction.
5. A motor vehicle according to Claim 4, wherein such attention-seeking device is arranged to give at least two different visual signals and/or at least two different audio signals indicative of the approach of the vehicle to within at least two different predetermined distances of an obstruction.
6. A motor vehicle according to any preceding Claim, wherein said proximity sensor is constructed as a coil may be arranged around the vehicle, for sensing variations in electromagnetic field attendant on the approach of a vehicle to an obstruction.

7. A motor vehicle according to any of Claims 1 to 6, wherein the or at least one said proximity sensor is constructed as an ultrasonic or infra-red range-finding device mounted on the vehicle.



**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

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**Relevant Technical Fields**

(i) UK CI (Ed.N) H4D (DRPB, DRPC), G4Q (QCE), G1N  
 (NCTA, NDPM, NDPQ, NDPX)

(ii) Int CI (Ed.6) G01V, H03K, G01S, G08G

Search Examiner  
 DR E PLUMMER

Date of completion of Search  
 8 MARCH 1995

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ONLINE: EDOC, WPI

Documents considered relevant  
 following a search in respect of  
 Claims :-  
 ALL

**Categories of documents**

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| <p><b>X:</b> Document indicating lack of novelty or of inventive step.</p> <p><b>Y:</b> Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p><b>A:</b> Document indicating technological background and/or state of the art.</p> | <p><b>P:</b> Document published on or after the declared priority date but before the filing date of the present application.</p> <p><b>E:</b> Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p><b>&amp;:</b> Member of the same patent family; corresponding document.</p> |
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| Category | Identity of document and relevant passages  | Relevant to claim(s) |
|----------|---|----------------------|
| X        | GB 1581503 (VOLL) whole document  | 1, 3-6               |
| X        | EP 0505028 (COMHLACHT TAIGHDE PROXIMETER) whole document and US 5319201                       | 1, 3, 4, 5, 7        |
| X        | US 4561064 (BRÜGGEN et al) whole document   | 1-5, 7               |
| X        | US 4490716 (TSUDA et al) whole document, eg Figure 14 and column 5 lines 61-63 and EP 0052357 | 1-5, 7               |
| X        | US 3491334 (MARTIN) whole document  | 1, 3, 7              |
| X        | New Scientist 15 August 1985 page 27  | 1-5                  |

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